

CLAIMS

1. A directional coupler having two hollow waveguide sections (3, 4; 3', 4') connected to each other by a plurality of coupling openings (6, 7; 6', 7') formed in a wall (5; 5') extending between the hollow waveguide sections (3, 4; 3', 4') characterized in that two adjacent coupling openings (6, 7; 6', 7') have a distance of $(2n+1) \lambda_g/4$ from each other, λ_g being the wavelength of the nominal centre frequency of the operating frequency range of the directional coupler and n being an integer.
2. A directional coupler according to claim 1, characterized in that n equals 1.
3. A directional coupler according to claim 1 or 2, characterized in that the hollow waveguide sections (3, 4) have rectangular cross section, and that the wall (5) forms a narrow side-wall of the hollow waveguide sections.
4. A directional coupler according to claim 1 or 2, characterized in that the hollow waveguide sections (3', 4') have rectangular cross section, and that the wall (5') forms a broad side-wall of the hollow waveguide sections (3', 4').
5. A directional coupler according to one of the preceding claims, characterized in that at least one of the coupling openings (6, 6') has a dimension in the longitudinal direction of the hollow waveguide sections (3, 4; 3', 4') of $\lambda_g/8$, preferably approx. $\lambda_g/4$.

6. A directional coupler according to one of the preceding claims, characterized in that each coupling opening (6, 7; 6', 7') has a dimension in the longitudinal direction of the hollow waveguide sections (3, 4; 3', 4') of at least $\lambda_g/8$.
7. A directional coupler according to one of the preceding claims, characterized in that the coupling openings (6, 7; 6', 7') have a length that decreases from the centre towards the ends of the directional coupler.
8. A directional coupler according to one of the preceding claims, characterized that two adjacent coupling openings (6, 7; 6', 7') are separated from each other by a wall portion having a length of more than $\lambda_g/4$, preferably approx. $\lambda_g/2$.